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| JENKENS & GILCHRIST 1401 MCKINNEY SUITE 2700 HOUSTON, TX 77010 | | | ROSSI, JESSICA | |
| | | ART UNIT | PAPER NUMBER | |
| | | 1733 | | |

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/038,200 | MERCURE ET AL. |
| | Examiner | Art Unit |
| | Jessica L. Rossi | 1733 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04 December 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) 15-23 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. _____.
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) 5) Notice of Informal Patent Application (PTO-152)
 Paper No(s)/Mail Date _____. 6) Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 12/4/03. Claims 1-23 are pending. Claims 15-23 are withdrawn from further consideration.
2. The rejection of claims 1, 3-4, 7-11, and 13-14 under 35 U.S.C. 102(b) as being anticipated by Wynne et al. '743, as set forth in paragraph 9 of the previous office action, has been withdrawn in light of Applicants amendment to claim 1.
3. The declaration under 37 CFR 1.132 filed 12/4/03 is insufficient to overcome the rejection of claims 1-4 and 7-14 under 35 U.S.C. 103(a) as being unpatentable over Wynne et al. '743 in view of Ikeda et al. '476 and Wynne et al. '373, or alternatively, Ikeda in view of Wynne '743 and Wynne '373, as set forth in paragraph 9 of the present Office action because:

The declaration shows that a low modulus "tie" layer has higher lamination strength than a prior art "adhesive" layer in a multi-layered shrink film laminate (p. 2, 4th paragraph of declaration). Applicants define a "tie" layer as a **low modulus polyolefin** resin that is **extruded between** a shrink film and thermoplastic sheet as opposed to a water based acrylic pressure sensitive "adhesive" layer which is coated onto both the shrink film and thermoplastic sheet prior to their lamination (p. 2, 2nd paragraph of declaration).

While the examiner does not dispute these showings, it is respectfully pointed out that the present claims do not state that the elastomeric tie layer is a low modulus polyolefin nor do they include any limitations pertaining to lamination strength. Therefore, Applicants showings are not commensurate with the scope of the claimed invention.

As for the limitations that are actually being claimed in the present invention, it is noted that the rejections set forth in paragraphs 9 and 10 below under 35 U.S.C. 103(a) render claims 1-14 obvious, since the combination of Wynne '743 and Ikeda '476 or Ikeda '476 and Wynne '743 (both combinations taken in light of Wynne '373) teach making a reinforced shrink wrap by extruding an elastomeric tie layer between a shrink film and a thermoplastic sheet having a reinforcing grid thereon.

Even if Applicants showings were commensurate with the scope of the claimed invention, they would still be insufficient to overcome the obviousness rejections set forth in the current office action, because Ikeda teaches the elastomeric tie layer comprising a low modulus polyolefin that is extruded between a shrink film and thermoplastic sheet, wherein the extruded tie layer exhibits improved lamination strength compared to prior art adhesives (column 1, lines 8-15; specifically, lines 14-15). Note Ikeda refers to the extruded tie layer as "adhesive layer A," which is made from materials that are also disclosed for the tie layer of the present invention (compare column 4, line 13 – column 7, line 50 of Ikeda with p. 8, section [28] of present specification).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear what Applicants mean by “laminating by extrusion the thermoplastic sheet, the shrink film, and the tie layer with the reinforcing grid.” What is being extruded? Do Applicants mean that all of these layers are extruded? If Applicants do intend for all of the layers to be extruded, please note that support for such a limitation cannot be found in the present specification and Applicants are invited to read the 112, 1st paragraph rejection set forth in paragraph 7 below. Applicants are asked to clarify.

It appears Applicants are trying to claim that the tie layer is extruded between the shrink film and thermoplastic sheet to laminate the thermoplastic sheet, shrink film, and tie layer with the reinforcing grid, as shown in Figure 1. It is suggested to amend the claim to state, “extruding the tie layer between the shrink film and thermoplastic sheet to laminate the thermoplastic sheet, the shrink film, and the tie layer with the reinforcing grid...” If Applicants amend claim 1 as suggested, it is noted that claim 2 should be canceled.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claim 1, the present specification does not have support for “laminating by extrusion the thermoplastic sheet, the shrink film, and the tie layer with the reinforcing grid.” Applicants are asked to clarify.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-4 and 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynne et al. (US 5328743; of record) in view of Ikeda (US 6214476; of record) and Wynne et al. (US 5773373; of record), or alternatively, Ikeda in view of Wynne '743 and Wynne '373.

With respect to claim 1, Wynne is directed to making a reinforced shrink wrap 10 that can be used for **packaging** (Figure 1; column 5, lines 35-36). The reference teaches providing a thermoplastic sheet 18b (column 2, lines 48-51 and 54-56; column 4, lines 16-17), providing a shrink film 12 (column 2, lines 22-25; column 3, lines 35-36), **coating** both the thermoplastic sheet and shrink film with an adhesive (column 3, lines 5-13), placing a reinforcing grid 16b on the coated thermoplastic sheet (column 3, lines 5-13; column 4, lines 9-16; column 2, lines 31-40), and laminating the thermoplastic sheet and shrink film such that the an adhesive layer 14b having the grid embedded therein is formed between the sheet and film (Figure 1; column 3, lines 5-13).

The reference teaches the adhesive layer is **preferably** a flexible, acrylic-based adhesive (column 4, lines 9-11), which the examiner has equated to be elastomeric; it being noted that the present specification teaches the elastomeric tie layer can be methyl acrylate (p. 8, lines 18-20). However, the reference is silent as to laminating by extrusion.

It is known in the shrink film laminate **packaging** art (column 13, line 24) to extrude an elastomeric tie layer A (column 12, lines 45-50; column 8, lines 51-53; column 4, lines 13 - column 7, line 48) between an oriented film (= shrink film; column 11, lines 51-56) and a

thermoplastic layer B (column 8, lines 54-65), wherein the tie layer provides a laminate having **improved interlayer adhesive strength** and shrinkability (column 1, lines 8-15), as taught by Ikeda.

Therefore, it would have been obvious to the skilled artisan at the time of the invention to coat the shrink film and thermoplastic sheet of Wynne '743 by extruding the elastomeric adhesive layer of Wynne '743 between the shrink film and thermoplastic sheet to laminate the same because such is known in the art, as taught by Ikeda (column 1, lines 8-15; column 13, line 24), and it eliminates the need for separate coating and laminating steps thereby expediting the manufacturing process.

The skilled artisan would have especially been motivated to combine the teachings of Wynne '743 and Ikeda in light of the fact that it is known to extrude an elastomeric tie layer between pre-formed thermoplastic layers, wherein one of the thermoplastic layers has a reinforcing grid thereon, such that the grid becomes embedded within the tie layer, as taught by Wynne '373 (Figures 1-2; column 4, lines 11-12; column 6, lines 9-10).

If it is not taken that the acrylic-based adhesive of Wynne '743 is elastomeric, it is noted that the extruded elastomeric tie layer of Ikeda comprises some acrylic-based components (column 7, lines 39-41) and therefore it would have been obvious to use the elastomeric tie layer for that of Wynne '743 because such exhibits improved lamination strength in a shrink film laminate (Ikeda; column 1, lines 8-15); it being reiterated that the acrylic-based adhesive mentioned in Wynne '743 is only **preferable** (column 4, lines 9-11).

Alternatively, it would have been obvious to the skilled artisan at the time of the invention to place a reinforcing grid on the thermoplastic sheet of Ikeda before extruding the

elastomeric tie layer between the shrink film and thermoplastic sheet because it is known in the art to have a reinforcing grid embedded within a bonding layer that is sandwiched between a shrink film and a thermoplastic sheet, as taught by Wynne '743 (see above), wherein the grid would minimize and contain tears and rips and prevent punctures from spreading (Wynne '743; column 1, lines 35-37).

The skilled artisan would have especially been motivated to combine the teachings of Ikeda and Wynne '743 in light of the fact that it is known to extrude an elastomeric tie layer between pre-formed thermoplastic layers, wherein one of the thermoplastic layers has a reinforcing grid thereon, such that the grid becomes embedded within the tie layer, as taught by Wynne '373 (Figures 1-2; column 4, lines 11-12; column 6, lines 9-10).

Regarding claim 2, Ikeda teaches applying the adhesive tie layer by extrusion coating (column 12, lines 45-50), wherein this eliminates the need for separate coating and laminating steps thereby expediting the manufacturing process. It is noted the present invention can extrude the elastomeric tie layer without affecting the shrink film because the thickness of the tie layer is maintained within the claimed range (p. 5, lines 25-28) – a range that is consistent with that taught by Wynne '743 (see paragraph 9 above).

Regarding claims 3-4, Wynne teaches the shrink film being highly irradiated polyethylene (column 3, lines 35-36).

Regarding claims 3-4, Ikeda teaches the shrink film being a polyethylene (column 11, lines 55-62) but it silent as to it being highly irradiated. It would have been obvious to highly irradiate the shrink film of Ikeda because such is known in the art, as taught by Wynne '743 (see paragraph 9 above), wherein this improves the properties of the shrink film.

Regarding claim 7, it would have been obvious for the tie layer of Ikeda to have a lower modulus than the thermoplastic sheet or shrink film because such is known in the art, as taught by Wynne '743 (column 2, lines 37-40), wherein this allows the grid to sag and prevent further tearing.

Regarding claim 8, Wynne '743 teaches the thermoplastic sheet including multiple plies (column 2, lines 54-55; column 5, lines 10-11).

Regarding claim 8, it would have been obvious to use multiple plies for the thermoplastic sheet of Ikeda because such is known in the art, as taught by Wynne '743 (see paragraph 9 above), wherein this would increase the strength of the laminate.

Regarding claim 9, Wynne '743 teaches the adhesive layer can be 0.75-1 mils (column 2, lines 33-35), which is consistent with that portion of the claimed range. Therefore, it would have been obvious to use the extruded tie layer of Ikeda having a similar thickness. As for the portion of the claimed range from 1-1.5 mils, it would have been obvious to use a tie layer having a thickness within this range for the tie layer of Wynne '743 because the prior art range is close enough that the skilled artisan would have expected the tie layer to have the same effect on the laminate.

Regarding claim 10, Wynne '743 teaches the thermoplastic sheet being from about 0.75-6 mils thick (column 2, lines 24-25 and 48-49) and the shrink film being from about 0.75-1.5 mils thick (column 2, lines 22-25).

Regarding claim 10, it would have been obvious to use a shrink film and thermoplastic sheet having a thickness within the claimed range for that of Ikeda because such is known, as taught by Wynne '743.

Regarding claims 11 and 13, Wynne '743 teaches the thermoplastic sheet and shrink film including additives such as ultraviolet stabilizers, flame retardants, static inhibitors etc. (column 3, lines 16-20 and 25-27).

Regarding claim 11 and 13, Ikeda teaches the thermoplastic sheet having antistatic agents and pigments (column 11, lines 12-15).

Regarding claim 12, both Wynne '743 and Ikeda are silent as to the tie layer having additives. It would have been obvious to include additives within the tie layers of both because such is known, as taught by Wynne '373 (column 5, lines 64-66), wherein this imparts desirable characteristics to the same.

Regarding claim 14, Wynne '743 teaches the shrink film being LLDPE, LDPE, or mixtures thereof (column 2, lines 22-24).

Regarding claim 14, Ikeda teaches the shrink film can be polyethylene (column 11, lines 55-62) but is silent as to it being LLDPE, LDPE, or mixtures thereof. It would have been obvious to use these types of PE for the shrink film of Ikeda because such is known in the art, as taught by Wynne '743 (see paragraph 9 above), wherein such shrink films provide a quality product.

10. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynne et al. '743 and Ikeda et al. and Wynne et al. '373, or alternatively, Ikeda and Wynne '743 and Wynne '373 as applied to claim 1 above, and further in view of Hendrickson (US 4087577; of record).

Regarding claim 5, Wynne '743 teaches the grid being a nonwoven filament grid (column 4, lines 14-16) but is silent as to it being a scrim. It would have been obvious to the skilled artisan at the time the invention was made to use a nonwoven scrim because such is known as a

reinforcement for heat-shrinkable thermoplastic films, as taught by Hendrickson (Figure 2; column 5, lines 16-21).

Regarding claim 6, Wynne '743 teaches the grid nylon or polyester and having about 200 to 800 denier (column 2, lines 28-31).

Response to Arguments

11. Applicant's arguments filed 12/4/03 have been fully considered but they are not persuasive.
12. On page 5 of the arguments, Applicants contend that inserting "by extrusion" does not narrow claim 1 because Applicants believe that such is implicit in "lamination".

The examiner respectfully disagrees with this assertion. While extrusion is a form of lamination, it is not the only means of lamination (i.e. two pre-formed layers can be laminated by passing them between heated rollers). Therefore, use of the word "lamination" in a claim does not limit the claim to extrusion lamination.

13. On page 8 of the arguments, Applicants argue that even if the Wynne '743 and Ikeda references are combined, there is no reasonable expectation of success.

The present specification acknowledges that the prior art fails to teach an extrusion-lamination process using an elastomeric tie layer due to a belief that processing temperatures in an extrusion-lamination process would be too high for shrink film and therefore would cause it to prematurely shrink (p. 2-3, section [9]). However, like the present invention, Ikeda teaches successfully extruding an elastomeric tie layer between a shrink film and a thermoplastic layer.

14. On pages 8-9 of the Arguments, Applicants argue that the claimed process results in improved properties in the shrink wrap, such as higher lamination strength, that are not expected from the prior art.

While the examiner agrees that the claimed process results in shrink wrap having improved properties over shrink wrap made by prior art processes using prior art adhesives, the examiner respectfully points out that the combination Wynne '734 and Ikeda in the alternative (both combinations taken in light of Wynne '373), as set forth in the present office action, has rendered the claimed invention obvious. Please refer to paragraph 3 above where examiner addresses these same arguments in greater detail in response to Applicants' declaration.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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